The Food Technology Laboratory of SAFT is gearing towards educating people in the Pacific Region in food processing and innovations. During the 50th Anniversary celebration in the Alafua and Laucala Campus the laboratory headed by Dr. Alminda Fernandez presented 50 processed products. On the 18th of September, 2018 a team from the Ministry of Health visited the laboratory to conduct inspection as the laboratory was applying for MOH Certificate of Health for Food Business. It is the vision of the Head of School, Assoc. Prof. Mohammed Umar, to mass produce these products for the market given that all the certifications are followed to ensure safety and quality. This certification is vital in the food processing industry. The laboratory which serves as the food manufacturing area was inspected for its compliance with the MOH standards. The lay-out and safety of the building and the work area was inspected as well as documents were submitted such as the Hazard Analysis Critical Control Point (HACCP) plan while sample of each product for certification were submitted for laboratory analysis in the Scientific Research Organisation of Samoa (SROS) through MOH. (cont. in page 2.)
MOH visits Food Technology Laboratory for Certification

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This move however tedious is necessary to ensure that the Food Technology laboratory in USP is following the standard set by the authority and thus, setting an example to the future students who will be interested in enrolling courses in Food Technology. Also, being certified will enable the School to produce the potential processed products such as the Green Tea, Breadfruit Flour and Papaya Ice cream and make it available in the market. The School of Agriculture and Food Technology envisioned a holistic approach in crop production which aspires a “Farm to Plate” system in providing nutritious and affordable food for the people of the Pacific Region and it starts with certification, after all these processed products and future graduates will be bringing the name of the University of the South Pacific. (LIU)

Experience Japan through Jenesys 2018

The JENESYS Programme (Japan-East Asia Network of Exchange for Students and Youths) is a project advanced by the Japanese government from the standpoint of providing a sound foundation for strong solidarity within Asia including the Island Countries in the Pacific through large-scale youth exchange. This year, Ms. Elisa Bano of the JENESYS Programme visited Alafua Campus on the 5th of September to promote and share more about the Programme. It is a 9-day cultural exchange promoting mutual trust and understanding, which focuses on people to people exchange in the hope of building friendship and cooperation among the participants. The programme is open to students and staff from Cook Islands, Fiji, Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.
Dr. Ravindra Chandra Joshi, a visiting Adjunct Professor of Agriculture of USP, has been one of the lead paper presenters at the International Conference on Tropical Fruit Pests and Diseases, at Le-Meridian, KotaKinabalu, Sabah Malaysia on the 25th-27th of September, 2018. His paper was about “The Impact of Elevated Levels of Carbon Dioxide on Host Plants, Insect Pests, and Their Natural Enemies: Implications for Tropical Agriculture”. The keynote speakers of the conference were Prof. Randy Ploetz (University of Florida), Dr. Mohamad Roff Mohd. Noor (Malaysian Agricultural Research and Development Institute) and Dr. Jayne Crozier (Centre for Agriculture and Bioscience International).

The conference theme was “Sustainable Solutions for Tropical Fruit Pests and Diseases” organized by the International Tropical Fruit Network (TFNet) and attended by Researchers and Agriculture practitioners from the different organizations around the globe. The said conference aimed to disseminate the existing expert knowledge on the mitigation and prevention of prevailing pests and diseases afflicting tropical fruits. (LTU)

The School of International Training Program in USP

This Semester 2, four students from the different education institutions in the US participated the School of International Training (SIT) Program. The program primarily aims to explore processes of change in Samoa and other Pacific Island Countries through interdisciplinary coursework, field study and independent research. They are staying in the USP Alafua student’s accommodation wherein they will have a chance to interact with the USP students from the different Pacific Island Countries. This semester the program has requested two of SAFT’s Lecturers, Drs. Md. Abdul Kader and Alminda Fernandez to conduct seminar on the effect of climate change to soils and the importance of Food Technology in the advent of the changing climatic condition, respectively. (LTU) Photo credit: A. Fernandez
The Samoa Farmers Association (SFA) gathered for two days in an inaugural forum at the Orator Hotel in the Tuanaimato, Apia on the 10th-11th of September to acknowledge and celebrate the role of farmers in Samoa’s development, exchange information and learn from other farmers’ successes, challenges and experiences, raise profile and status of farmers and of farming as a profession and way of life, and start a network of Samoan farmers and their organizations as a first step to linking up with farmer networks in the region and globally. The keynote address and official opening of the forum was given by the Prime Minister, Hon. Tuilaepa Aiono Sailele Malielegai. The forum was supported by the Pacific Island Farmers Organizations Network (PIFON) and other international agriculture stakeholders including the University of the South Pacific (USP).

(Photo credit: M. Umar)
SAFT Participates in the Samoa Farmers Forum

USP was represented by the Acting Campus Director and Head of the SAFT, Assoc. Prof. Mohammed Umar and two of SAFT’s Lecturer, Mr. Falaniko Amosa and Dr. Alminda M. Magbalot. Both of the Lecturers participated as speakers of the said forum. Mr. Amosa talked about the services the USP is offering particularly the agriculture program offerings in Alafua Campus. While Dr. Fernandez shared the efforts of USP in food processing and innovations, and the opportunities these innovations will bring to the Pacific Region. Other participants were representatives of farmer groups, government ministries, and individuals with stake in the development of agriculture, agribusiness entrepreneurs, flower growers and florists. (LTU)
On the 11th of September, 2018, the University of the South Pacific participated in the National Career Day organized by the Samoa Qualification Authority at the EFKS Youth Hall, Mulenuu. The said activity was stipulated in the AMP 2018/2019 with the theme ‘Lifelong Learning’. The theme emphasizes learning as a lifetime activity. It also advocates the message that learning does not stop at any educational level, in order to achieve an individual’s career aspirations.

The event aimed to provide information to College students (Year 9 & 10); PSET students, other stakeholders and the public on learning and career pathways, careers and occupational information, and College study options relevant to further studies. Also, to increase the number of students and the general public meeting and networking with PSET Providers, SQA Careers Advisory Team and industry stakeholders to gain career information and industry insights for career planning. During the National Career Day, USP set up booth to display relevant posters and promotional materials including food processed products wherein potential students have visited and had the chance to ask for the services and academic programs of the university. (LTU)
Rotaract is simply rotary in action which is a youth version of the Rotary Club. One of the notable advocacies of the Rotary Club is offering help to students who find it hard to meet their school fees. Rotaract is a newly established club in the USP Alafua Campus, which is led by Tasman Siamomua as Chairman. The members help in raising funds for the club. They are connected with the UNDP, and are affiliates of the USP Students Association (USPSA). The club has organized activities for students’ welfare such as awareness on violence against women and activities that encouraged students to put the knowledge learned into practice, for instance in Agriculture. They also conduct fun activities and physical activities to relieve students from stress and enhance physical health. Their recent activity was in cooperation with the 4RPacific covering community work. With this, they work to keep Samoa clean and conserving Marine life. The 4RPacific recycles whatever useful materials that are recovered during the activity. Their activity with the 4RPacific is carried out close to the sea at the Malaeafatu Reserve in Sogi, Apia. Their office is now located close to L&T at USP. And now they are planning to extend the club to the Savaii Centre in order to improve the interaction of Savaii students with the USP Alafua. (D. Williams)
Mr. Ione Malaki, the Course Coordinator of AG134 visited Fiji for 2 weeks in August 2018 to conduct tutorials and practical classes for the Blended mode students based at Laucala, Lautoka and Labasa Campuses. A total of 58 students from Laucala and Lautoka attended tutorials at the Laucala Campus. They conducted their practical activities at the Koronivia Research Station during the first week which coincide with the Mid-Semester break of Semester 2. The same activities were repeated for the Labasa based students in Vanua Levu during the following week attended by a total of 21 students. Tutorials were held at the Labasa Campus and practical activities at the Dreketi Rice Irrigation Compound and Workshop wherein the students were able to board for one night at a minimal fee for lodging and meals in their boarding facilities. The purpose of the activities was to provide the opportunity to interact with students and to provide further clarifications on course content but mainly to conduct practical activities that can only be conducted through visit like this. These activities including familiarization with the main types of engines and their components, machine identification, pre-starting checks and routine maintenance, tractor familiarization and operations, calibration and familiarization with the lever-operated and motorized knapsack sprayers, and basic mapping and slope determination.
In the School of Agriculture and Food Technology, we believe that the best way to learn is through practical experience. Courses like AG266 (Horticultural Crops Production) and AG363 (Pest and Disease Management) are taught in Face to face mode every Semester 2 in Alafua Campus. One of the requirements of the two courses is Garden Plots, wherein students have to produce agricultural crops and will be marked based on their performance from land preparation to harvesting. (Photo credit: AG266 and AG363 Students)
Banana Disease: Banana Bunchy Top Virus

In the advent of restoring the banana industry for export in Samoa, there is an on-going massive planting of ‘Cavendish’ banana in Upulo and Savaii. Just recently the Ministry of Agriculture and Fisheries in cooperation with international funding agency, imported banana planting materials from South Africa and distributed to various farmers. The economic potential of this banana variety is very encouraging however, the past taught us that banana production is coupled with a number of challenges. One of the most important challenges is the pests and diseases that caused significant loss in many countries engaged in banana production. Banana Bunchy Top Virus (BBTV) is one of the major diseases affecting banana cultivars around the globe. The disease is caused by a virus wherein the leaves of infected plants become shorter, stiffer, and narrower than the preceding leaf and stand more erectly, becoming rosette and with a “bunchy-top” appearance, thus the name Banana Bunchy Top Virus. The virus is transmitted by an aphid vector, *Pentalonia negronervosa* or commonly known as black aphid. It can also be transmitted through vegetative planting materials but not through mechanical inoculation.

Like other viral diseases of plants, there is no cure for BBTV. It is either prevention or eradication is the most appropriate principle to follow in managing this disease. Once the disease is already in the field, eradication of infected plants from lightly and heavily affected areas should be done. It is important to familiarize with the symptoms distinct to BBTV infected plants. In managing this disease, it is also important to control the insect vector. This can be done by insecticide application before chopping down the infected plants to ensure that aphids could no longer transmit the disease to the neighboring healthy plants. In eradicating infected banana, the common and most effective practice is chopping down the plants, then dig out corms with all the suckers and chop all into small pieces to prevent regrowth. ‘Vampire’ method is the common approach to prevent regrowth of suckers. This method uses a 15 to 20 cm bamboo sticks, soaked in 100% glyphosate herbicide for 24 hrs. Then insert the bamboo stick in the center of the cut mother plant. In the absence of bamboo stick, 10 ml of 100% glyphosate herbicide can be injected directly into the mother plant. Once done, a colored plastic bag or a ribbon maybe tied into the treated plants for monitoring purposes. It is expected that after approximately 7 days, the treated plants will die along with the following suckers. Killing the host (banana plant) will deprived the virus from multiplying and will also deter the black aphids from feeding into the infected plant thereby disrupting the transmission. (*LTU*)

BBTV infected banana plants in Alafua Campus showing “bunchy-top” symptoms (Photo credit to AG363 students): (a) Banana plant is short, leaves are stiffer and narrower than the healthy plants, (b) leaves showed to gather at one point as manifested in a rosette appearance, (c) Adult of the *Pentalonia negronervosa*, the insect vector (Source: ProMusa).
AG363 Practical: BBTV Infected Plants Eradication Exercises

1. Survey the area for black aphid population.
2. Clear the area from weeds, remove diseased leaves (deleafing) and blossoms.
3. Marked the BBTV infected banana plants for easy identification during eradication.
4. Cut down the infected plants, then dig out corms with all the suckers and chop all into pieces.
5. Inject 10 mL of 100% glyphosate herbicide into the mother plant than tie a colored ribbon or plastic bag for ease of monitoring on the progress of eradication. (Photo credit: AG363 Students)
**Feature Vegetable: **RADISH

Radish scientifically known as *Raphanus sativus* which belongs to the Brassicaceae family is a root crop and is juicy, pungent, or sweet in taste. They can be white, red, purple or black, and in terms of shape, they can be long and cylindrical or round. They are eaten raw, cooked or pickled. The oil obtained from the seeds of radish is used in a number of beneficial health applications.

It is rich in various nutrients that include potassium, calcium, sodium, and vitamin C. It contains vitamins like thiamin, niacin, riboflavin, folate, and vitamin B6, A and K. It also provides iron magnesium, phosphorus, and zinc.

It is very good for the liver and stomach, and acts as a powerful detoxifier too. It heals the symptoms of piles, aids in the treatment of leukoderma, keeps skin moisturized and body hydrated, treats urinary and kidney disorders, relieves symptoms of constipation, regulates blood sugar levels, prevents cardiovascular diseases, helps lose weight and improve immunity, useful in treating jaundice, reduces pain and swelling, treat cancers like colon, stomach and oral cancers, and decreases congestion in respiratory system (organicfacts.net).

Radish is one of the nutritious vegetable that Dr. Alminda Magbalot-Fernandez is developing for new processed products at the USP Alafua food technology laboratory. The potential processed products from radish are pickled radish, radish powder, dried radish, radish chips, radish jam, radish candy, radish polvoron, radish lemonade, radish baby food, radish tea, flour and many others.. *(AMF) Photo Credit: OC. Ubaub*
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